

**FUTURE FISHERIES IMPROVEMENT PROGRAM  
GRANT APPLICATION**

*(please fill in the highlighted areas)*

**I. APPLICANT INFORMATION**

- A. Applicant Name: Big Hole River Foundation
- B. Mailing Address: PO Box 3894
- C. City: Butte State: MT Zip: 59702
- Telephone: 866-533-2473
- D. Contact Person: Michael A. Bias, Ph.D., Executive Director
- Address if different from Applicant:
- City:  State:  Zip:
- Telephone: 406-684-5564 (office); 406-925-2276 (cell)
- E. Landowner and/or Lessee Name  
(if other than Applicant): Mary E. Merino, Moose Creek Ranch
- Mailing Address:
- City: Melrose State: MT Zip: 59743
- Telephone: 406-593-0000

**II. PROJECT INFORMATION\***

- A. Project Name: Moose Creek Stewardship Fence Project
- River, stream, or lake: Moose Creek, tributary to Big Hole River
- Location: Township T1S Range R9W Section 33, 34
- County: Silver Bow

- B. Purpose of Project:

The overall objective of our *Stewardship Fence Program* is to help landowners construct and maintain wildlife-friendly fencing to protect critical sections of the Big Hole River and important tributaries while adjacent pastures are being grazed. At times when the adjacent pastures are not being grazed, gates or openings along the fence will be opened allowing wildlife to more-easily access the area. The Moose Creek Project will reduce grazing along nearly one mile of an important tributary to the Big Hole River promoting bank stabilization, maintaining healthy channel geometry, and providing cold water to a critical reach of the Big Hole.

C. Brief Project Description:

Our Stewardship Fencing Program seeks to work with landowners along the Big Hole River willing to enter into this important stream-protection program. The Moose Creek Stewardship Fencing Project is located along 1-mile of Moose Creek on the Moose Creek Ranch, about five miles north of Melrose, Silver Bow County, Montana. Moose Creek is an important tributary to the Big Hole River. Fish, Wildlife & Parks (FWP) fisheries surveys revealed its use as a spawning tributary. It provides year-round flow providing an important water source to the main river. A natural fish passage barrier exists on Moose Creek upstream on Bureau of Land Management land, so FWP is considering it for westslope cutthroat trout restoration. Currently, only Yellowstone cutthroat trout occur above the barrier. The landowner previously fenced various sections of one side of this important tributary to the Big Hole River. This project will fence the remaining portions of Moose Creek with a 4-strand, wildlife-friendly fence (smooth bottom wire with 16.5-foot post intervals and follow all Future Fisheries fencing guidelines) that will tie into the existing fence. An existing on-stream calving pasture will be relocated off stream and comprise the landowner contribution to this project. Fencing along the calving pasture will require a 7-strand fence and a solid wood fence that will provide wind protection for the calves. Total project fencing will encompass nearly a mile of degraded stream bank. Two fencing contractors provided cost estimates for the entire project of \$13,392 and \$15,860. Both estimates used \$1.25 per foot for running fence cost; however, bracing, gates, and PVC float gates at water breaks increases the project cost substantially. Average cost (\$14,626) of the two estimates was used to calculate project budgets. The project will be contracted as a single service contract. Riparian monitoring before and after implementing this project will follow riparian monitoring protocols established by FWP and the US Fish and Wildlife Partners for Wildlife Program to assess project success. Future projects on this reach will include off-stream watering for livestock and stream channel restoration.

D. Length of stream or size of lake that will be treated: Nearly 1 mile

E. Project Budget:

**Grant Request (Dollars):** \$ 5,000

Contribution by Applicant (Dollars): \$ 9,626 In-kind \$ 2,500  
(salaries of government employees are not considered as matching contributions)

Contribution from other Sources (Dollars): \$ 25,626 In-kind \$ 2,500  
(attach verification - See page 2 budget template)

**Total Project Cost:** \$ 17,126

F. Attach itemized (line item) budget – see template

G. Attach specific project plans, detailed sketches, plan views, photographs, maps, evidence of landowner consent, evidence of public support, and/or other information necessary to evaluate the merits of the project. If project involves water leasing or water salvage complete supplemental questionnaire ([fwp.mt.gov/habitat/futurefisheries/supplement2.doc](http://fwp.mt.gov/habitat/futurefisheries/supplement2.doc)).

H. Attach land management and maintenance plans that will ensure protection of the reclaimed area.

**III. PROJECT BENEFITS\***

A. What species of fish will benefit from this project?:

By enhancing aquatic and riparian habitats along a one-mile reach of Moose Creek, and important tributary to the Big Hole River, this project will benefit fluvial Arctic grayling; westslope cutthroat, rainbow, and brown trout; and mountain whitefish as well as other non-game native fishes. Although our mission is being driven largely by the need to conserve the Arctic grayling; through improving the river corridor to help sustain grayling, all aquatic and riparian species will benefit. Our mission is to conserve, enhance, and protect the free-flowing character of the Big Hole River, its unique culture, fish, and wildlife. The Big Hole River basin is one of the West's last watersheds free of major development. It is a Blue-Ribbon trout stream and home to 126 Species of Special Concern -- those considered to be 'at risk' due to declining population trends, threats to their habitats, or restricted distribution. The last self-sustaining wild population in the lower-48 of fluvial Arctic grayling, a federal candidate species and Montana Species of Special Concern, occurs in the Big Hole River.

B. How will the project protect or enhance wild fish habitat?:

This *Stewardship Fencing Project* will reduce intense grazing pressure along this important tributary, promoting bank stabilization, maintaining healthy channel geometry, reducing sedimentation, and enhancing riparian vegetation – all improving wild fish habitat. Most of the restoration projects in the Big Hole watershed consist of all or some of basically the same recipe: fencing, channel or bank work, and planting vegetation. Degraded stream systems in the Big Hole generally require the replacement of lost functions or system components. As along the Moose Creek reach, degraded systems in the Big Hole generally have little riparian vegetation and widened and shallow stream geometry. As bankside riparian vegetation degrades, whether from grazing or mechanical removal, stream banks tend to erode laterally. This lateral erosion widens the stream. As the stream widens the pools begin to disappear, creating a shallower channel. Further, wide shallow stream channels reduce water quality by increasing water temperatures. To restore healthier stream and riparian functions, degraded functions need to be reversed or replaced. Fencing riparian areas reduces grazing pressure on stream side vegetation allowing it to recover. If only fencing is employed in degraded riparian and stream areas, riparian vegetation, and healthy stream geometry will eventually return.

C. Will the project improve fish populations and/or fishing? To what extent?:

Stabilizing degraded river bank, improving stream channel geometry, enhancing riparian vegetation, and reducing sediment runoff will improve fish spawning conditions within this reach, thereby improving fish populations. Because the project area directly contributes fish to one of the four reaches on the Big Hole River where FWP staff conduct the twice-annual (September and April) electrofishing census efforts, evaluating this project's effect on fish populations can be directly assessed.

D. Will the project increase public fishing opportunity for wild fish and, if so, how?:

Not directly - because this project will occur entirely on privately-owned lands, the project will not immediately increase public fishing opportunity through increased or improved access. However, because of Montana's stream access laws allow for public access to rivers below the high water mark; the enhanced riparian corridor and improved flow to the Big Hole from this project should improve fishing along this reach of the Big Hole River. As such, this project will generally improve the fishery in this reach of the Big Hole which will result in enhanced fishing opportunities for the public.

E. If the project requires maintenance, what is your time commitment to this project?:

The Big Hole River Foundation, funding partners, and the landowner are committed to this project. Funding from the other sources for this project are contingent "upon a grazing plan agreement between BHRF and the landowner, similar to an NRCS, FWP, etc. grazing agreement." As such, the Big Hole River Foundation and the landowner will enter into a 20-year management and maintenance agreement for this project prior to construction.

F. What was the cause of habitat degradation in the area of this project and how will the project correct the cause?:

The primary land use of the Moose Creek is irrigated agriculture and ranching. These activities, primarily intensive grazing immediately adjacent to the stream, have had substantial negative effects on stream channel geometry, riparian vegetation, and water quality. As bankside riparian vegetation degrades from unmanaged streamside grazing, stream banks tend to erode laterally. This lateral erosion widens the stream. As the stream widens the pools begin to disappear, creating a shallower channel. Wide shallow stream channels reduce water quality by increasing water temperatures. In addition, eroding streambanks contribute greater sediment loads into the river than would naturally occur, potentially smothering aquatic life and contributing to embeddedness of spawning gravels. This *Stewardship Fencing Project* will reduce intense grazing pressure along this river bank promoting bank stabilization, enhancing riparian vegetation, maintaining healthy channel geometry, and improve water quality of the Big Hole River.

G. What public benefits will be realized from this project?:

This *Stewardship Fencing Project* will reduce intense grazing pressure along a highly-degraded tributary to the Big Hole River promoting bank stabilization, enhancing riparian vegetation, and maintaining healthy channel geometry. These enhancements improve water quality through lower water temperatures and reduced sediment loads. Improved water quality enhances fish populations and improves riparian corridors.

H. Will the project interfere with water or property rights of adjacent landowners? (explain):

Because this project will construct a fence on property controlled solely by the landowner, this project will not interfere with water or property rights of adjacent landowners.

I. Will the project result in the development of commercial recreational use on the site?: (explain):

Because this project will construct a fence that will contribute to a better grazing management system for the landowner, this project will not result in the development of commercial recreational use on the site.

J. Is this project associated with the reclamation of past mining activity?:

This project is not associated with the reclamation of past mining activities.

Each approved project sponsor must enter into a written agreement with the Department specifying terms and duration of the project.

**IV. AUTHORIZING STATEMENT**

I (we) hereby declare that the information and all statements to this application are true, complete, and accurate to the best of my (our) knowledge and that the project or activity complies with rules of the Future Fisheries Improvement Program.

Applicant Signature:

Date:

Sponsor (if applicable):

**\*Highlighted boxes will automatically expand.**

**Mail To:**

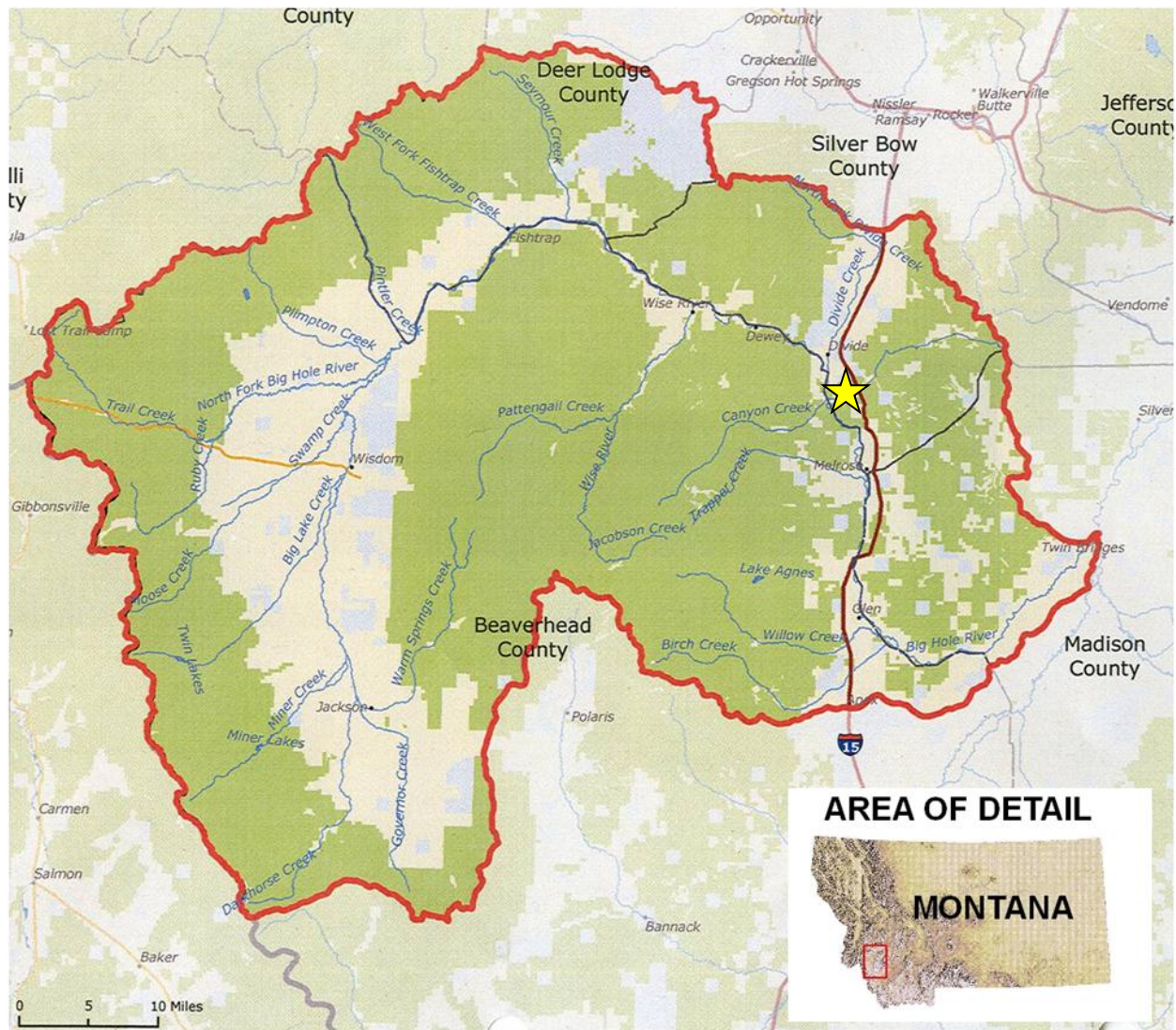
**Montana Fish, Wildlife & Parks  
Habitat Protection Bureau  
PO Box 200701  
Helena, MT 59620-0701**

**Incomplete or late applications will be returned to applicant.**

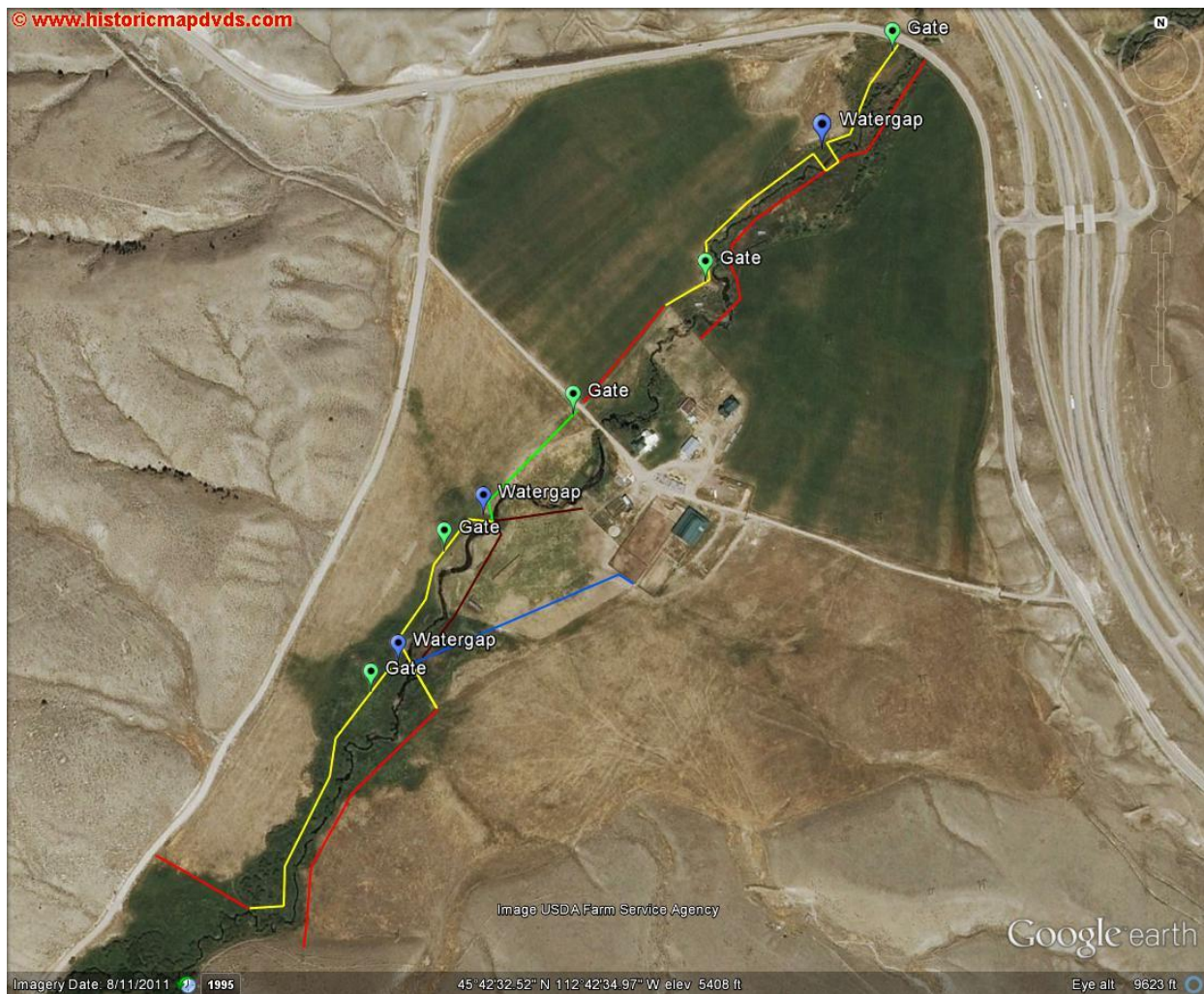
**Applications may be rejected if this form is modified.**

**\*\*\*Applications may be submitted at anytime, but must be received by the Future Fisheries Program office in Helena before December 1 and June 1 of each year to be considered for the subsequent funding period.\*\*\***





The Big Hole River Foundation's Stewardship Fencing Project is located along the Big Hole River and tributaries in southwest Montana. Moose Creek, an important tributary to the Big Hole River, enters from the east and is located midway between Divide and Melrose, Silver Bow County, Montana. Nearly one mile of Moose Creek will be fenced through Moose Creek Ranch (yellow star) to manage grazing along this important tributary to the Big Hole River.



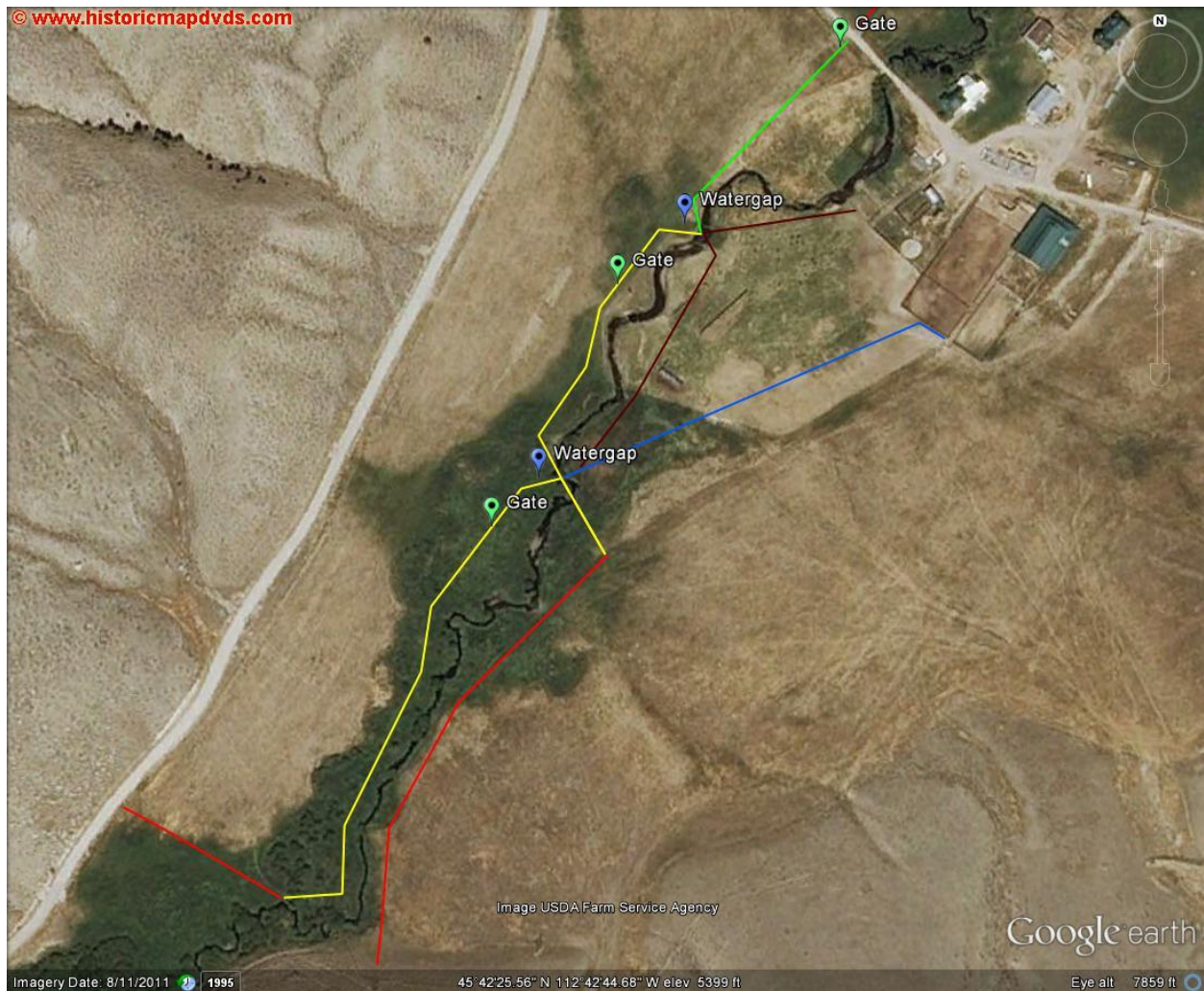
The Big Hole River Foundation's Moose Creek Stewardship Fencing Project is located along 1-mile of Moose Creek on the Moose Creek Ranch, about five miles north of Melrose, Silver Bow County, Montana. The landowner previously fenced various sections of one side of the creek (red line). The proposed 4-strand, wildlife-friendly fence alignment is depicted by the yellow line and will tie into the existing fence. A newly-fenced calving pasture will comprise a portion of this project. Fencing along the calving pasture will require a 7-strand fence and a solid wood fence that will provide wind protection for the calves.





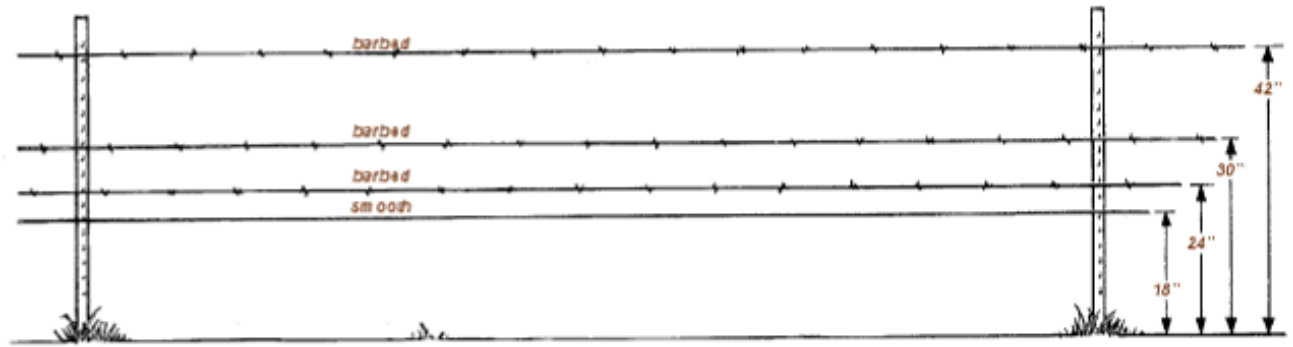
The proposed 4-strand, wildlife-friendly fence alignment on the north half of Moose Creek Ranch is depicted by the yellow line and will tie into existing fences (red line). This portion of the fence is 0.31 miles long and will incorporate one water gap and 2 gates.





The proposed 4-strand, wildlife-friendly fence alignment on the south half of Moose Creek Ranch is depicted by the yellow line and will tie into existing fences (red line). This portion of the fence is 0.48 miles long and will incorporate two water gaps and 2 gates.

A calving pasture will comprise a portion of this project. Fencing along the calving pasture will require a 7-strand fence depicted by the green line. This portion of the fence is 0.11 miles long and incorporates one gate. The brown line depicts a solid wood fence (landowner provided) that will provide a windbreak; and the blue line, depicts a 7-strand fence (landowner provided) along the south end of the calving pasture.



The Big Hole River Foundation's Moose Creek Stewardship Fence Project will consist primarily of 4-strand wire (smooth bottom wire) with 16.5-foot post intervals. Wire spacing will be 18 inches, 24 inches, 30 inches, and 42 inches from the ground.

**BUDGET TEMPLATE SHEET FOR FUTURE FISHERIES PROGRAM APPLICATIONS**  
(Revised 11/29/2012)

WORK ITEMS (ITEMIZE BY CATEGORY)	NUMBER OF UNITS	UNIT DESCRIPTION*	COST/UNIT	TOTAL COST	CONTRIBUTIONS			
					FUTURE FISHERIES REQUEST	IN-KIND SERVICES	IN-KIND CASH	TOTAL
<u>Personnel</u>								
Survey				\$ -				\$ -
Design				\$ -				\$ -
Engineering				\$ -				\$ -
Permitting				\$ -				\$ -
Oversight	80	BHRF staff	\$31.25	\$ 2,500.00		2,500.00		\$ 2,500.00
Labor				\$ -				\$ -
<u>Service</u>								
<u>Contract</u>								
Fence construction	1	Lump sum	\$14,626.00	\$ 14,626.00	5,000.00	9,626.00		\$ 14,626.00
<u>Travel</u>								
Mileage				\$ -				\$ -
Per diem				\$ -				\$ -
<u>Construction Materials</u>								
				\$ -				\$ -
<u>Equipment</u>								
				\$ -				\$ -
<u>Mobilization</u>								
				\$ -				\$ -
TOTALS				\$ 17,126.00	\$ 5,000.00	\$ 12,126.00	\$ -	\$ 17,126.00

\*Units = feet, hours, inches, lump sum, etc.

## MATCHING CONTRIBUTIONS

CONTRIBUTOR	IN-KIND SERVICE	IN-KIND CASH	TOTAL
Big Hole River Foundation, staff project oversight	\$ 2,500.00	\$ -	\$ 2,500.00
Big Hole River Foundation, project-specific donations	\$ -	\$ 9,626.00	\$ 9,626.00
Landowner, previous fence construction	\$ -	\$ 6,500.00	\$ 6,500.00
Landowner, windbreaks and calving pasture fences	\$ -	\$ 7,000.00	\$ 7,000.00
	\$ -	\$ -	\$ -
	\$ -	\$ -	\$ -
<b>TOTAL CONTRIBUTIONS</b>	\$ 2,500.00	\$ 23,126.00	\$ 25,626.00



# **Montana Fish, Wildlife & Parks**

**1820 Meadowlark Lane • Butte, MT 59701**

November 28, 2012

Mike Bias  
Big Hole River Foundation  
P.O. Box 3894  
Butte, MT 59701

Dear Mr. Bias,

I am writing this letter in support of the proposed fence on Moose Creek near Divide by the Big Hole River Foundation. In addition to containing a good resident fishery of brown and rainbow trout, Moose Creek is likely an important spawning and rearing stream for the Big Hole River. Its consistent flows and minimal irrigation withdrawal make for good year round flows and the ability to support both spring (rainbows) and fall (browns) spawning fish. The low gradient of the stream through the ranch also makes for possibility of containing good spawning areas (the reach has not been formally surveyed but surveys have been done farther upstream). Spawning studies have been performed in this reach to document current use, but given its proximity to the Big Hole (1.5 miles upstream of the confluence) and the habitat present and the similarities between the fishery in the river and the stream, it is likely that Big Hole fish readily use Moose Creek for spawning and rearing.

Livestock has had an impact on the stream in the reach proposed for fencing. The landowner has taken recent steps to reduce these impacts and the proposed project would likely eliminate livestock impacts altogether. The removal of livestock from the riparian area will allow some of the eroding banks to heal and some of the heavier hit areas that have become over-widened to naturally narrow. The stream upstream of this location on the same ranch is in excellent condition with a very healthy riparian area. The area proposed for fencing has been used more intensively for agricultural including grazing and hay production. It is likely that with the exclusion of livestock this reach of stream will also recover and provide similar excellent habitat to reaches located farther upstream. It is my hope that this project is funded for the benefit it could provide the fishery in Moose Creek and potentially the Big Hole River.

Sincerely,

Jim Olsen  
Fisheries Biologist